

## REMARKS

Pursuant to the Office Action for the above-identified case mailed October 30, 2002, and to the telephone interview courteously granted to Applicants' representative on February 3, 2003, Applicants submit this Response. In this case, Claims 1 to 23 are pending. Claims 1, 11, 12 and 23 are being amended herein. Claims 24 to 26 are being added. The specification is being amended to correct a minor grammatical error. No new matter is being introduced by way of the amendments or addition. A check in the amount of \$548.00 is submitted herewith to cover the cost of the two month extension and the additional claims. Please charge Deposit Account No. 02-1818 for any additional fees owed.

In the Office Action, Claims 10 and 11 were objected to because as filed they were the same. The amendment to Claim 11, which is non-narrowing and disclaims no subject matter with respect to art discussed herein, has been amended. The amendment to Claim 11 overcomes the objection to Claims 10 and 11.

Claims 1 and 12 to 18 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 2,809,254 to Edsall ("*Edsall*"). Claims 2 to 11 and 19 to 23 were rejected under 35 U.S.C. § 103(a) as being obvious in view of *Edsall* and the disclosure in the Background of the application ("Background").

In the telephone interview of Feb. 3, 2003, the present invention was discussed in view of the *Edsall* reference with regard to amending the claims to distinguish over that reference. Applicants respectfully submit that the amended claims and newly added independent Claim 26 are structurally different and clearly defined over *Edsall*.

In particular, Claim 1 as amended is directed to a diagnostic blown fuse indicator for a fuse having both a short circuit element and a current overload element. The device includes a short circuit indicator in electrical communication with the short circuit element. The short circuit indicator provides visual indication of a short circuit condition. A current overload indicator electrically communicates with the current overload element. The current overload indicator provides a visual indication of an overload condition. A conductor contacts and electrically connects to the short circuit indicator and the current overload indicator. An electrical connection is made between the conductor and both the short circuit and current overload elements.

Applicants respectfully submit that *Edsall* does not teach or suggest Claim 1 as amended. The *Edsall* device is different from the present invention in a number of respects. In one respect, the *Edsall* device is different because it includes separate housings for the short circuit element and the current overload element. Those housings are removably attached to one another. The *Edsall* device enables the portion of the fuse that opens due to an electrical event to be replaced and a portion that does not open to be reused. While such a configuration on the surface may appear to be advantageous, the apparatus required to separate the elements is cost prohibitive. It is more desirable to place the components in a single body as is done in the present invention.

Claim 1 as amended highlights a structural characteristic of the present invention that the *Edsall* device does not include or teach. As illustrated in Figs. 1 and 2 of the present invention, a single conductor 26 contacts and electrically connects to the short circuit indicator 28 and the current overload indicator 30. That connection is not taught by *Edsall*, which in Fig. 6 of that reference discloses indicators 40 and 41 that are separate from one another. Indeed, indicators 40 and 41 are disposed outside of the current limiting device A and overload device B, which represent schematically like devices illustrated in Figs. 1 and 4 of *Edsall*. Because devices A and B of *Edsall* are separate and replaceable with respect to one another, *Edsall* teaches away from connecting the indicators 40 and 41 via a conductor that contacts both the elements. Such a conductor would have to be removed or ripped away from one of the indicators 40 and 41 to separate devices A and B from one another.

For at least the above-described reasons, Applicants respectfully submit that amended Claim 1 and Claims 2 to 11 that depend therefrom are each structurally different, patentably distinct and allowable over *Edsall*.

Applicants also traverse the obviousness rejection of Claims 3 to 11 in view of *Edsall* and the Background. It is well known that most inventions are combinations of known elements. While the Background discusses known types of blown fuse indicators, the Background does not teach or suggest the use of those indicators with the other limitations of Claim 1. Moreover, those indicators are not described or suggested by *Edsall*. Further, no reference discloses, teaches or suggest the use of a plurality of transparent lenses as included in Claim 3. Applicants therefore respectfully submit that Claims 3 to 11 each provide additional patentable distinctions over *Edsall* and the Background.

Claim 12 as amended is directed to a fuse having a short circuit element in electrical communication with a current overload element. The fuse includes a short circuit indicator and a current overload indicator connected electrically via the same conductor to a point between a high electrical resistance area of the short circuit element and the current overload element.

Applicants respectfully submit that *Edsall* does not teach or suggest the Claim 12 as amended. As discussed above, the indicators 40 and 41 of *Edsall* are separate from one another due to the fact that devices A and B of *Edsall* are separately attached to each other. *Edsall* does not therefore teach or suggest the use of a same conductor to connect the short circuit indicator and current overload indicator to a point between a high resistance area of the short circuit element and a current overload element. The indicators 40 and 41 are distinct from one another and do not connect via the same conductor to one another. Moreover, indicators 40 and 41 do not connect via the same conductor adjacent to an area of high resistance an element. Indeed, *Edsall* does not appear to disclose a distinct area of high resistance.

Additionally, Applicants submit that various ones of claims depending from Claim 12 are also patenably distinct over *Edsall* and the Background. For example, neither *Edsall* nor the Background teach the use of a solder piece as recited in Claim 16. Further, neither *Edsall* nor the Background teach defining a slot for creating a high resistance area as included in Claim 17. *Edsall*, rather, defines a series of similarly sized holes in its short circuit element, each of which could potentially open upon a short circuit. Those holes teach away from providing a distinct high resistance area. Further, the indicator limitations of Claims 19 to 21 in combination with the limitations of base claim 12 provide additional structural distinctions over *Edsall* and the Background.

For at least the above-described structural reasons, Applicants respectfully submit that amended Claim 12 and Claims 13 to 22 that depend therefrom are each structurally different, pantentable and allowable over *Edsall*. It should be appreciated that the allowability of Claims 1 and 12 renders moot the obviousness rejections of Claims 2 to 11 and 19 to 22.

Claim 23 as amended is directed to a fuse having both a short circuit element and a current overload element. The fuse includes a short circuit indicator communicating in parallel with short circuit elements. The short circuit indicator is coated with a chemical composition that vaporizes after a short circuit. A current overload indicator communicates in parallel with the current overload element. The current overload indicator is coated as well with a chemical

composition that vaporizes after a current overload condition occurs. A single body houses the short circuit element, the current overload, the short circuit indicator and the current overload indicator. The body includes indicia that distinguishes a short circuit vaporization from a current overload vaporization.

Applicants respectfully submit that Claim 23 as amended is patentably distinct in view of *Edsall* and the Background of the invention. Perhaps due to the fact that *Edsall* teaches separate devices A and B, *Edsall* does not teach the inclusion of indicia that tells an operator what type of electrical event has occurred. It should be appreciated that the purpose of the indication of the present invention is so that an operator can diagnostically determine the cause of an electrical failure to remedy that cause. Housing the two elements inside a single body creates the need for indicia that tells the operator whether a short circuit or a current overload condition has occurred. Presumably, the operators of *Edsall* would determine this by determining which of the components of the fuse needed to be replaced. In the present invention, the indicia prevents the operator from having to cut open the fuse to determine which element has opened.

The difference in the configuration of the elements and indicators of the present invention versus that of *Edsall* creates the need to place indicia or markings on the body. That configuration and those markings provide structural limitations not taught or suggested by either *Edsall* or the Background of the invention. Accordingly, Applicants respectfully submit that Claim 23 is structurally different, patentable and allowable over *Edsall* and the Background.

The word "circuit" has also been removed from line eight of Claim 23 for clarity. That amendment disclaims no subject matter and is non-narrowing.

New Claim 26 also includes the limitation that the elements and indicators are housed inside a single body, wherein the body includes indicia that distinguishes the short circuit indicator from the current overload indicator. For at least the reasons discussed in connection with Claim 23, Applicants submit that added Claim 26 is structurally different, patentable and allowable over *Edsall* and the Background of the application.

An earnest endeavor has been made to place this application in condition for formal allowance and in the absence of more pertinent art such action is courteously solicited. If the Examiner has any questions regarding this Response, Applicants respectfully request that the Examiner contact the Applicants' attorney designated below.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version with Markings to Show Changes Made.**"

Respectfully submitted,

BELL, BOYD & LLOYD LLC

BY



Robert W. Connors  
Reg. No. 46,639  
P.O. Box 1135  
Chicago, Illinois 60690-1135  
Phone: (312) 807-4214

## VERSION WITH MARKINGS TO SHOW CHANGES MADE

### In the Specification:

The paragraph beginning at page 5, line 13 has been amended as follows:

In an embodiment, the short circuit indicator and the current overload indicator electrically communicate with an end cap of the fuse. ~~In an embodiment,~~

### In the Claims:

Claim 1 has been amended as follows:

1. (Amended) A diagnostic blown fuse indicator for a fuse having both a short circuit element and a current overload element, comprising:

a short circuit indicator in electrical communication with the short circuit element, wherein the short circuit indicator provides visual indication of a short circuit condition; ~~and~~

a current overload indicator in electrical communication with the current overload element, wherein the current overload indicator provides visual indication of an overload condition;

a conductor contacting and electrically connecting to the short circuit indicator and the current overload indicator; and

an electrical connection between the conductor and both the short circuit and current overload elements.

Claim 11 has been amended as follows:

11. (Amended) The blown fuse indicator of Claim 1, wherein the ~~short circuit~~ current overload indicator includes a highly resistive substance electrically communicating with a light emitting diode.

Claim 12 has been amended as follows:

12. (Amended) A ~~diagnostic blown fuse indicator for a~~ fuse having a short circuit element in electrical communication with a current overload element, comprising:

a short circuit indicator ~~electrically communicating with~~ and a current overload indicator connected electrically via a same conductor to a point between a high electrical resistance area of the short circuit element and the current overload element; and

~~a current overload indicator electrically communicating with a point between a high electrical resistance area of the short circuit element and the current overload element.~~

Claim 23 has been amended as follows:

23. (Amended) A ~~diagnostic blown fuse indicator for a~~ fuse having both a short circuit element and a current overload element, comprising:

a short circuit indicator electrically communicating in parallel with the short circuit element, wherein the short circuit indicator is coated with a chemical composition that is adapted to vaporize after a short circuit occurs; ~~and~~

a current overload indicator electrically communicating in parallel with the current overload element, wherein the overload indicator is coated with a chemical composition that is adapted to vaporize after a current overload ~~circuit~~ occurs; and

a single body that houses the short circuit element, current overload element, short circuit indicator and current overload indicator and indicia on the body that distinguishes a short circuit vaporization from a current overload vaporization.